

PERFORATED PROPELLANT COMPOSITION AND
METHOD OF MANUFACTURING SAME

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ABSTRACT OF THE DISCLOSURE

The present invention is directed to a propellant composition made from a lacquer, the lacquer comprising: (a) from about 15 to about 70 wt% of an organic solvent; (b) from about 0.1 to about 2.5 wt% of a stabilizer; (c) optionally, from about 0% to about 40 wt% of an energetic plasticizer; (d) optionally, from about 0 to about 10 wt% of a nonenergetic plasticizer; (e) optionally, from about 0 to about 10 wt% water; (f) optionally, from about 0 to about 15 wt% of additional additives; and balance being nitrocellulose; all weight percents based on the total weight of the composition, and wherein the lacquer has a viscosity of less than 10 million centipoise when processed. The present invention is also directed to an efficient and safe method of making perforated propellant grains using the above lacquer composition, as well as propellant grains having ellipsoidal cross sections or outwardly extending ridges.

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